

DREYER
Appl. No. 10/606,783
May 9, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) [A] An arrangement comprising:
a conveyor belt, and
a conveyor idler including:
a sleeve having an outer surface and an inner surface, the conveyor belt being supported on top of the conveyor idler and arranged to run on the outer surface of the sleeve,
a shaft about which the sleeve can rotate in a forward direction,
a locking mechanism for preventing the sleeve from rotating in a reverse direction, but which locking mechanism permits rotation of the sleeve in the forward direction,
the locking mechanism being located within the sleeve and having a shaft member fixed to the shaft, with at least one locking member which can move between an unlocked position in which the sleeve can rotate in the forward direction and a locked position in which the locking member locks the sleeve to the shaft member to prevent rotation of the sleeve in the reverse direction thereby causing the outer surface of the sleeve to provide a braking effect on the conveyor belt and preventing the conveyor belt from running backwards.
2. (Currently Amended) The [conveyor idler] arrangement of claim 1 wherein the shaft member includes an outer surface with a plurality of circumferentially spaced ramps thereon and wherein the at least one locking member can move along one of the ramps between the unlocked position and the locked position.
3. (Currently Amended) The [conveyor idler] arrangement of claim 2 wherein the at least one locking member is a ball bearing or a roller bearing.

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4. (Currently Amended) The [conveyor idler] arrangement of claim 1 wherein the locking mechanism includes a rotatable member fixed directly or indirectly to the sleeve, so that the rotatable member is rotatable with the sleeve in the forward direction.
5. (Currently Amended) The [conveyor idler] arrangement of claim 4 wherein the at least one locking member is interposed between the shaft member and the rotatable member so that the at least one locking member can indirectly lock the sleeve to the shaft member via the rotatable member.
6. (Currently Amended) The [conveyor idler] arrangement of claim 5 wherein the shaft member has two side faces and an outer surface with a plurality of circumferentially spaced ramps on the outer surface, with locking members located on at least some, and preferably on all, of the ramps, and wherein the rotatable member defines a race with the locking members being sandwiched between the race and the ramps of the shaft member, and wherein the locking members are movable along their ramps between locked and unlocked positions.
7. (Currently Amended) The [conveyor idler] arrangement of claim 6 wherein the rotatable member has two opposed side faces between which the shaft member and the locking members are sandwiched.
8. (Currently Amended) The [conveyor idler] arrangement of claim 7 wherein a spacer is interposed between each side face on the one hand, and the shaft member and the locking members on the other hand.
9. (Currently Amended) The [conveyor idler] arrangement of claim 6 wherein the race of the rotatable member includes a groove for the locking members.

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10. (Currently Amended) The [conveyor idler] arrangement of claim 4 wherein the rotatable member is directly fixed to the sleeve by being welded to the inner surface of the sleeve by a weld or welds.
11. (Currently Amended) The [conveyor idler] arrangement of claim 4 wherein the shaft member is made of a harder material than the rotatable member.
12. (Currently Amended) [A] An arrangement comprising:
a conveyor belt, and
a conveyor idler [having] including:
 an outer surface and an inner surface, the conveyor belt being supported on top of
the conveyor idler and arranged to run on the outer surface of the conveyor idler,
 a shaft about which the conveyor idler can rotate in a forward direction,
 a braking mechanism for preventing the conveyor idler from rotating in a reverse direction, but which braking mechanism permits rotation of the conveyor idler in the forward direction,
 the braking mechanism being located within the conveyor idler and includes at least one brake element which can move between a first position in which the conveyor idler can rotate in the forward direction, and a second position in which the brake element prevents the conveyor idler from rotating in the reverse direction thereby causing the outer surface of the conveyor idler to provide a braking effect on the conveyor belt and preventing the conveyor belt from running backwards.
13. (Currently Amended) The [conveyor idler] arrangement of claim 12 wherein the braking mechanism includes a brake guide for the at least one brake element.
14. (Currently Amended) The [conveyor idler] arrangement of claim 13 wherein the brake guide is secured to the shaft.

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15. (Currently Amended) The [conveyor idler] arrangement of claim 13 wherein the brake guide has an outer surface with a plurality of recesses each having a brake surface and wherein the at least one brake element is located on one of the brake surfaces and wherein the at least one brake element is moveable on its brake surface between the first position and the second position.
16. (Currently Amended) The [conveyor idler] arrangement of claim 15 wherein a plurality of brake elements are provided, with each brake element being located on its respective brake surface.
17. (Currently Amended) The [conveyor idler] arrangement of claim 12 wherein the at least one brake element is a ball bearing or a roller bearing.
18. (Currently Amended) The [conveyor idler] arrangement of claim 13 wherein the at least one brake element is interposed between the brake guide and the conveyor idler.